

Notice of Allowability

Application No.

09/759,702

Examiner

Ashwin Mehta

Applicant(s)

PIPER, TODD ELLIOTT

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers received July 10, 2003.
2. ☒ The allowed claim(s) is/are 1-4 and 61-89.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☒ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>attached</u> . |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input checked="" type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 10, 2003 has been entered.

Specification

2. The objection to the specification is withdrawn, in light of Applicants' assurance that the ATCC Accession numbers will be inserted into page 7 upon receipt of notice of allowability.

3. The objection to claim 42 is withdrawn in light of its cancellation.

4. The rejections of claims 8-19 and 21-42 under 35 U.S.C. 112, 1st and/or 2nd paragraphs and/or 35 U.S.C. 102/103 are withdrawn, in light of the claim cancellations.

Examiner's Amendment

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

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Authorization for this examiner's amendment was given in a telephone interview with Lila Ackrad on December 18, 2003.

In the claims:

1. Seed of hybrid maize variety [Hybrid maize seed] designated 37Y15, representative seed of said variety [hybrid 37Y15] having been deposited under ATCC Accession number _____.

In claim 2, the recitation, "its parts" was replaced with, --a part thereof--.

Claims 5-60 were cancelled.

The following new claims were added:

61. (New) A tissue culture of regenerable cells produced from the plant of claim 2.
62. (New) Protoplasts produced from the tissue culture of claim 61.
63. (New) The tissue culture of claim 61, wherein cells of the tissue culture are from a tissue selected from the group consisting of leaf, pollen, embryo, root, root tip, anther, silk, flower, kernel, ear, cob, husk and stalk.
64. (New) A maize plant regenerated from the tissue culture of claim 61, said plant having all the morphological and physiological characteristics of hybrid maize plant 37Y15, representative seed of said plant having been deposited under ATCC Accession No. _____.
65. (New): A method for producing an F1 hybrid maize seed, comprising crossing the plant of claim 2 with a different maize plant and harvesting the resultant F1 hybrid maize seed.

66. (New) A method of producing a male sterile hybrid maize plant comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as _____ and _____ respectively, with a nucleic acid molecule that confers male sterility and crossing said inbred maize parent plants to produce said male sterile hybrid maize plant.

67. (New) A male sterile maize hybrid plant produced by the method of claim 66.

68. (New) A method of producing an herbicide resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as _____ and _____ respectively, with a transgene that confers herbicide resistance to generate an herbicide resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said herbicide resistant hybrid maize plant.

69. (New) An herbicide resistant hybrid maize plant produced by the method of claim 68.

70. (New) The herbicide resistant hybrid maize plant of claim 69, wherein the transgene confers resistance to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

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71. (New) A method of producing an insect resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as ____ and ____ respectively, with a transgene that confers insect resistance to generate an insect resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said insect resistant hybrid maize plant.

72. (New) An insect resistant hybrid maize plant produced by the method of claim 71.

73. (New) The insect resistant hybrid maize plant of claim 72, wherein the transgene encodes a *Bacillus thuringiensis* endotoxin.

74. (New) A method of producing a disease resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as ____ and ____ respectively, with a transgene that confers disease resistance to generate a disease resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said disease resistant hybrid maize plant.

75. (New) A disease resistant hybrid maize plant produced by the method of claim 74.

76. (New) A method of producing a hybrid maize plant with decreased phytate content comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as ____ and ____ respectively, with a

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transgene encoding phytase to generate an inbred maize parent plant with decreased phytate content and crossing said inbred maize parent plants to produce said hybrid maize plant that confers decreased phytate content.

77. (New) A hybrid maize plant with decreased phytate content produced by the method of claim 76.

78. (New) A method of producing a hybrid maize plant with modified fatty acid metabolism or modified carbohydrate metabolism comprising transforming at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited as _____ and _____ respectively, with a transgene encoding a protein selected from the group consisting of stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme to generate an inbred maize parent plant with modified fatty acid metabolism or modified carbohydrate metabolism and crossing said inbred maize parent plants to produce said hybrid maize plant that confers modified fatty acid metabolism or modified carbohydrate metabolism.

79. (New) A hybrid maize plant produced by the method of claim 78.

80. (New) The hybrid maize plant of claim 79 wherein the transgene confers a trait selected from the group consisting of waxy starch and increased amylose starch.

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81. (New) A maize plant, or a part thereof, having all the physiological and morphological characteristics of the hybrid maize plant 37Y15, representative seed of said plant having been deposited under ATCC Accession No. ____.

82. (New) A method of introducing a desired trait into a hybrid maize line 37Y15 comprising:

(a) crossing at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited under ATCC Accession Nos. as ____ and ____ respectively, with another maize line that comprises a desired trait, to produce F1 progeny plants, wherein the desired trait is selected from the group consisting of male sterility, herbicide resistance, insect resistance, disease resistance and waxy starch;

(b) selecting said F1 progeny plants that have the desired trait to produce selected F1 progeny plants;

(c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;

(d) selecting for backcross progeny plants that have the desired trait and morphological and physiological characteristics of said inbred maize parent plant;

(e) repeating steps (c) and (d) three or more times in succession to produce selected fourth or higher backcross progeny plants;

(f) crossing said fourth or higher backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize line 37Y15 with the desired trait and all of the morphological and physiological characteristics of hybrid maize line 37Y15 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

83. (New) A plant produced by the method of claim 82, wherein the plant has the desired trait and all of the physiological and morphological characteristics of hybrid maize line 37Y15 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

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84. (New) The plant of claim 83 wherein the desired trait is herbicide resistance and the resistance is conferred to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

85. (New) The plant of claim 83 wherein the desired trait is insect resistance and the insect resistance is conferred by a transgene encoding a *Bacillus thuringiensis* endotoxin.

86. (New) The plant of claim 83 wherein the desired trait is male sterility and the trait is conferred by a cytoplasmic nucleic acid molecule that confers male sterility.

87. (New) A method of modifying fatty acid metabolism, phytic acid metabolism or carbohydrate metabolism in a hybrid maize line 37Y15 comprising:

(a) crossing at least one of inbred maize parent plants GE571367 and GE533418, representative samples of which have been deposited under ATCC Accession Nos. as ____ and ____ respectively, with another maize line that comprises a nucleic acid molecule encoding an enzyme selected from the group consisting of phytase, stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme;

(b) selecting said F1 progeny plants that have said nucleic acid molecule to produce selected F1 progeny plants;

(c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;

(d) selecting for backcross progeny plants that have said nucleic acid molecule and morphological and physiological characteristics of said inbred maize parent plant;

(e) repeating steps (c) and (d) three or more times in succession to produce selected fourth or higher backcross progeny plants;

(f) crossing said fourth or higher backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize line 37Y15 that comprises said nucleic acid molecule and has all of the morphological and physiological characteristics of hybrid maize line 37Y15 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

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88. (New) A plant produced by the method of claim 87, wherein the plant comprises the nucleic acid molecule and has all of the physiological and morphological characteristics of hybrid maize line 37Y15 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

89. (New) A method for producing a maize seed, comprising crossing the plant of claim 2 with itself or a different maize plant and harvesting the resultant maize seed.

6. Claims 1-4 and 61-89 are allowed.

REQUIREMENT OF ALLOWANCE UNDER 37 CFR §§ 1.801-1.809

4. The deposit statements in the specification on pages 7 and 45 are deemed in accordance with 37 CFR §§ 1.801-1.809. Therefore, no 35 USC § 112, 1st paragraph rejection has been maintained even though it is apparent that seed of hybrid maize 37Y15 and seed of inbred maize varieties GE571367 and GE533418 are essential to the claimed invention and that their deposit is necessary for an adequate written description and enablement for the claimed invention. Since the application is otherwise in condition for allowance except for the needed deposit of 37Y15, GE571367, and GE533418 seed, and since the Office has received written assurance that an acceptable deposit will be made on or before payment of the issue fee, the Office is authorized to mail Applicant a Notice of Allowance and Issue Fee Due together with a requirement that the

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needed deposit be made within THREE (3) MONTHS of the mail date of this letter (see 37 CFR§ 1.809(c)).

Under 37 CFR 1.809(c)(d) an applicant is required to make a deposit of seed within three months after the mailing date of the Notice Of Allowance and Issue Fee Due. The time period for making a biological deposit, and an amendment to add the depository information to the specification, is no longer extendable. See 37 CFR 1.136(c) and 1.809(c), revised in Changes to the Time Period for Making any Necessary Deposit of Biological Material, 66 Fed. Reg. 21090 (April 27, 2001), 1246 Off. Gaz. Pat. Office 104 (May 22, 2001), effective for Notices of Allowability mailed on or after May 29, 2001. Amendments are no longer permitted to be filed after the payment of the issue fee. See 37 CFR 1.312, revised in Changes to Application Examination and Provisional Application Practice, 65 Fed. Rge. 14865, 14869 and 14873 (March 20, 2000), 1233 Off. Gaz. Pat. Office 47, 50 and 54 (April 11, 2000), effective on May 29, 2000. Failure to make the needed deposit of seeds of 37Y15, GE571367, and GE533418 will result in abandonment of the application for failure to prosecute. The deposit statements on pages 7 and 45 in the specification, and all claims which refer to the instant seeds by name, must be amended to include the deposit accession numbers. These amendments should be submitted before the payment of the issue fee as an Amendment After Allowance under 37 CFR 1.312.

The statement of deposit in the specification shall contain:

- (1) The accession number for the deposit(s);
- (2) The date of the deposit(s);

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- (3) A description of the deposited biological material sufficient to specifically identify and to permit examination; and
- (4) The name and address of the depository. (See 37 CFR 1.809(d)).

Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta, whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays from 8:00 A.M to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

December 18, 2003



Ashwin D. Mehta, Ph.D.
Primary Examiner
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